



Utah.

Where ideas connect

Department of Environmental Quality
Division of Environmental Response and Remediation

168 North 1950 West
P.O. Box 144840
Salt Lake City, Utah 84114-4840
(801) 536-4100
(801) 359-8853 Fax
(801) 536-4414 T.D.D.
www.deq.utah.gov

Michael O. Leavitt
Governor

Dianne R. Nielson, Ph.D.
Executive Director

Brad T Johnson
Acting Director

M/035/002

RECEIVED

JAN 15 2003

DIV. OF OIL, GAS & MINING

ERRC-08-03

January 14, 2003

Dr. Jonathan Callender, V.P. Resource Development
Kennecott Land Corporation
5295 South 300 West Suite 475
Murray, Utah, 87107

Re: **Kennecott Land Company documentation**

Dear Mr. Callender,

The Division of Environmental Response and Remediation (DERR) has been reviewing the following documentation, submitted by Kennecott Land Company (KLC):

- (1) Operation and Maintenance of the Reclaimed Kennecott South Jordan Evaporation Ponds – Amended Plan, Kennecott Land Company, October 2002.
- (2) South Jordan Evaporation Ponds Site Pond Sediment Removal Work Plan – Revised, North American Mine Services, November 22, 2002.
- (3) Appendix A Evaporation Ponds Site Sludge Removal Project – Post Removal Sampling and Analysis Plan, North American Mine Services, November 22, 2002.
- (4) Bastian Sink Site Soil Removal Work Plan – Revised, North American Mine Services, December 5, 2002.
- (5) Bastian Sink Post Removal and Confirmation Sampling and Analysis Plan, North American Mine Services, December 5, 2002.

DERR has also been reviewing the following supporting documentation submitted by KLC:

- (1) General Comments by Kennecott Land, Kennecott Land Company, September 13, 2002.
- (2) Kennecott Land Responses to DERR Comments on the Information Packet for the South Jordan Evaporation Ponds Cleanup, Kennecott Land Company, September 13, 2002.
- (3) South Jordan Evaporation Ponds Consolidation Area Infiltration and Leachability of Sulfate, Kennecott Development Company, October 21, 2002.

0002

- (4) Copper Notch Repository Infiltration and Leachability of Sulfate, Kennecott Development Company, October 21, 2002.
- (5) Evaporation Pond Analytical Results March 2002 Trenching and Sampling, Kennecott Development Company, October 21, 2002.
- (6) Arsenic and Lead in POND Sediments Used to Make Mixed Soils, North American Mine Services, October 2002.

During the review of the above listed documentation, DERR developed the enclosed comments. Please review the comments and respond.

The above project has been determined to have merit at removing materials that prevent the significant redevelopment of once mining impacted land. DERR appreciates being involved in the review and development of the work plan and operation & maintenance plan for this project, and looks forward to seeing the redevelopment of this area. At this time, DERR agrees with the premise of KLC's proposed assessment and approves KLC to move forward with initial site preparation work as we work together to resolve the remaining concerns on the work plans.

If you have any questions, please feel free to call me at (801) 536-4282.

Sincerely,



Douglas C. Bacon, Project Manager
Division of Environmental Response and Remediation

DCB/klv

Enclosure

cc: Dr. Eva Hoffman, U. S. Environmental Protection Agency, Region VIII
Tom Munson, Division of Oil, Gas, and Mining
Patti Pavey, M.S., Director, Salt Lake Valley Health Department

DERR Comments on the South Jordan Evaporation Ponds Site
Pond Sediment Removal Work Plan – Revised

Specific Comments:

(1) Page 5, Section 3.2.2 Haul Route, 1st paragraph, 4th sentence: It states that a small portion of this route would cross private property; the landowner has approved access in principle. Please explain what it means that access has been approved in principle.

A haul road figure is referenced in the paragraph. DERR notes that this figure was not provided to our office for review. The referenced crossing for the haul road could not be accurately assessed since the referenced crossing area is too large to accurately judge the location of the crossing. Please provide the figure for review.

(2) Page 7, Section 3.2.9 Emergency Spill Contingency Plan, 4th Bullet: It states that spill site cleanup will be done on a visual basis. Please explain why a soil sample will not be collected to verify the removal of spilled material, especially material with elevated concentrations of lead and arsenic.

DERR Comments on the Evaporation Ponds Site Sludge Removal Project
Post Removal Sampling and Analysis Plan

General Comments:

(1) Please discuss the data quality objectives (DQO's) for this sampling effort and how the sampling effort will provide the necessary information to accurately assess both the current and future exposure risks.

Specific Comments:

(1) Page 2, Section 3.0 Sampling Procedures, 1st paragraph, 1st sentence: It states that post-removal samples will be collected to document the arsenic and lead concentration of the post-removal surface. It is DERR's understanding that these samples will be collected on the freshly cleared surface prior to the application of the mixed soils excavated from the northern and southern pond areas. Please explain how representative the data produced from this sampling effort will be, in light of the fact that the sampled surface will be buried by a mixed soils component that may have elevated concentrations of the contaminants of concern (COCs).

(2) Page 3, Section 3.0 Sampling Procedures, 1st paragraph, 3rd sentence: It states that sampling will consist of either composite or individual grab samples dependent upon the size of the footprint available for sampling. These two sampling strategies, composite and individual grab samples, provide two different pieces of information. Composite samples allow the analyst to average the potential risk of exposure across a large parcel that has been sampled. An individual grab sample provides information that is specific to one point both in time and space. In light of the general comment posed to KLC, please explain the rationale in choosing one of these two sample types to gather and how the DQO's will be attained.

(3) Page 3, Section 3.0 Sampling Procedures, 1st paragraph, 7th sentence: It states that sample coverage will average one sample per acre. The primary land use for this site is residential with the necessary commercial, industrial and municipal infrastructure to support this land use. Please explain how representative the data produced at this sample density will be for the primary land use. A typical residential sampling density that has been used at other mining impacted sites in the Southwest Jordan Valley has been one sample per ¼ acre.

Unless biasing of the sample locations to avoid building foundations and roadway areas takes place, this sampling density may not produce the appropriate information to judge the potential risk posed by remaining material that exceeds the remedial cleanup standards.

DERR Comments on the Bastian Sink Site Soil Removal Work Plan

General Comments:

(1) DERR notes that similar comments that are raised below in the specific comments section were raised on the South Jordan Evaporation Ponds Site Pond Sediment Removal Work Plan – Revised.

Specific Comments:

(1) Page 3, Section 3.2.2 Haul Route, 1st paragraph, 4th sentence: It states that a small portion of this route would cross private property; the landowner has approved access in principle. Please explain what it means that access has been approved in principle.

A haul road figure is referenced in the paragraph. DERR notes that this figure was not provided to our office for review. The referenced crossing for the haul road could not be accurately assessed, since the referenced crossing area is too large to accurately judge the location of the crossing. Please provide the figure for review.

(2) Page 4, Section 3.2.3 Soil Removal, 1st paragraph, 1st sentence: It states that Bastian Sink soil previously identified at the site will be removed on a visually guided basis. Please explain how this “visually guided” basis of determining the removal of contaminated soils will be performed. Please describe the soil which has been impacted and provide the soil specific characteristics that will assist the observer to determine the status of the removal effort.

(3) Page 4, Section 3.2.3 Soil Removal, 1st paragraph: KLC states that if soils are left in place above the remedial standards they will be capped in place with six feet of native fill soil. First, DERR assumes that the fill soils will meet the remedial standards chosen for this project. Please explain how residual contaminated soils left in place will be prevented from posing a risk during future redevelopment, i.e., please discuss and elaborate on the appropriate institutional controls that will prevent these soils from posing a risk to workers and abutting landowners.

(4) Page 4, Section 3.2.3 Soil Removal, 1st paragraph, 5th sentence: It states that areas exceeding the remedial standard for lead and arsenic will be capped with approximately six feet of native fill soil. Please explain if the capping soils will be compacted and if so, please provide the ~~depth~~ of the cap after compaction.

(5) Page 4, Section 3.2.3 Soil Removal, 2nd paragraph, 3rd sentence: It states that the in-place soils (fill) provided by the Trans Jordan Landfill have not been exposed to garbage or mining erosion wastes and are located immediately south and southeast of the previously filled landfill area. Please explain if these soils have been characterized through soil sampling to verify this statement. If so, please provide the data from the sampling effort. Absent site-specific data, please explain how this statement can be made. Historical wind deposition, as well as any

uncontrolled releases or migration of contaminated material from the landfill could have caused these fill soils to become impacted.

(6) Page 4, Section 3.2.3 Soil Removal, 3rd paragraph, 1st sentence: It states that subsequent to removal of the Bastian Sink soils, the Trans Jordan Landfill will fill and cap the Sink. Please explain why the Trans Jordan Landfill group is performing this function.

(7) Page 5, Section 3.2.5 Post-Removal Sample Collection, 1st paragraph: It states that sample coverage will average one sample per acre. The primary land use for this site is residential with the necessary commercial, industrial and municipal infrastructure to support this land use. Please explain how representative the data produced at this sample density will be for the primary land use. A typical residential sampling density that has been used at other mining impacted sites in the Southwest Jordan Valley has been one sample per ¼ acre.

Unless biasing of the sample locations to avoid building foundations and roadway areas takes place, this sampling density may not produce the appropriate information to judge the potential risk posed by remaining material that exceeds the remedial cleanup standards.

(8) Page 5, Section 3.2.8 Emergency Spill Contingency Plan, 4th Bullet: It states that spill site cleanup will be done on a visual basis. Please explain why a soil sample will not be collected to verify the removal of spilled material, especially material with elevated concentrations of lead and arsenic.

DERR Comments on the Bastian Sink Post Removal and Confirmation Sampling and Analysis Plan

General Comments:

(1) Please discuss the data quality objectives (DQO's) for this sampling effort and how the sampling effort will provide the necessary information to accurately assess both the current and future exposure risks.

Specific Comments:

(1) Page 2, Section 2.0 *Sampling Procedures*, 3rd paragraph: It states that sample coverage will average one sample per acre. The primary land use for this site is residential with the necessary commercial, industrial and municipal infrastructure to support this land use. Please explain how representative the data produced at this sample density will be for the primary land use. A typical residential sampling density that has been used at other mining impacted sites in the Southwest Jordan Valley has been one sample per 1/4 acre.

Unless biasing of the sample locations to avoid building foundations and roadway areas takes place, this sampling density may not produce the appropriate information to judge the potential risk posed by remaining material that exceeds the remedial cleanup standards.